HISTORY OF MATHEMATICS COURSE (AM289) AT THE OPEN UNIVERSITY, GREAT BRITAIN

By Graham Flegg
Course Team Chairman, Open University

AM289 is a second-level half-credit inter-faculty course available to Open University students from 1976. The course has been designed so as to be suitable for the non-mathematician as well as for the mathematician. It provides a general survey of selected topics in the history of mathematics together with an in-depth study for which there is a choice between two options.

The general section of the course consists of an introductory unit and eleven further units, all of which are based upon reading in four set books. These are: C.B. Boyer, 1968, *A History of Mathematics* (Wiley, paperback ed.); P. Dedron & J. Itard, 1974, *Mathematics and Mathematicians* I,II (Transworld); M. Kline, 1972, *Mathematics in Western Culture* (Pelican); R.L. Wilder, 1974, *Evolution of Mathematical Concepts* (Transworld).

The two special options are *Origins and Development of the Calculus* and (for students little mathematical background in the calculus) *Counting, Numerals and Calculation.*

The units are as follows:

General Section

Introduction to the Course
1. Numbers and Counting
2. The Real Numbers
3. Greek Mathematics: Three Problems
4. The Solution of Equations
5. Projection
6. Coordinate Geometry
7. The Calculus
8. Non-Euclidean Geometry
9. Modern Algebra
10. Paradoxes and the Infinite
11. Mathematics and Man

Origins and Development of the Calculus

C1 Greek Mathematics
C2 Indivisibles and Infinitesimals
C3 Newton and Leibniz
C4 Calculus in the 18th Century I: Foundations
C5 Calculus in the 18th Century II: Techniques and Applications

Counting, Numerals and Calculation

N1 Counting I: Primitive and More Developed Counting Systems
N2 Counting II: Decimal Number Words: Tallies and Knots
N3 Written Numbers
N4 Written Fractions
N5 Methods of Calculation

Author of the general section of the course is Graham Flegg (Open University). The units for the special option on the calculus were written by Dr. Margaret E. Baron (London) and Dr. H.J.M. Bos (Utrecht), and the units for the option on counting, etc. by Prof. B.L. Van der Waerden [Zurich), Dr. M. Folkerts (Berlin), Dr. E. Neuenschwander (Zurich) and Graham Flegg.

The television programmes introduce some of the subject matter of the associated units. All the programmes are in colour, and each programme introduces a specialist in the topic being pre-

sented. Those taking part include Prof. B.L. Van der Waerden (Zurich), David Fowler (Warwick), Prof. Morris Kline (New York), Prof. Carl Boyer (New York) and Prof. Clive Kilmister (London). The programmes are available on 16mm sound film.

The radio programmes are varied in their approach: some are introductory, but others deal with specific aspects of the associated units or present general background material not included in the units. Where it has been possible, authors of the special options have taken part in some of the programmes associated with their units.

Leverhulme Research Project: Since the majority of the television programmes are introductory to the units, it is likely that they will have considerable value to students other than those registered for the Open University course. The Leverhulme Trust have supported a Research Officer to develop the use of the course material outside the Open University in higher education establishments, and also in the last year of secondary schools. Special pamphlets, one for each television programme, are being prepared together with a teacher's guide. All written material, together with associated films and tapes, will become available during 1975 - 1976.

Further Information:

Enquiries relating to availability of units, films, etc.: The Director of Marketing, The Open University, P.O. Box 81, Walton Hall, Milton Keynes MK7 6AB, England.

Purely academic enquiries: Graham Flegg, Course Team Chairman, AM289, Faculty of Mathematics, The Open University, Milton Keynes MK7 6AA, England.

Enquiries relating to the Leverhulme Research Project: Mrs. J.S.A. Nicolson, Research Officer, History of Mathematics, Faculty of Arts, The Open University, Milton Keynes MK7 6AA, England.

A COURSE IN HISTORY OF MATHEMATICS FOR MATHEMATICS TEACHERS

By Barnabas Hughes, O.F.M.
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The course described here was tailored for American teachers, grades 7 to 14. Most of them have at least a good undergraduate major in mathematics; few teach anything more difficult than second year algebra. They seek an understanding of history of mathematics up to the calculus of Newton and Leibniz, together with a survey from that time to the present. They want information readily adaptable for their own classes. Recognizing that pure mathematics has little attraction for tactile-prone adolescents, the teachers require an appreciation of personalities and